ments, these gases constantly accompany the oxygen of which the sun determines the production when it acts upon a vegetable submerged in water impregnated with carbonic acid." Is this also the case when carbonic acid is decomposed by foliage in the air?

Boussingault concludes his paper with the remark that the earlier observers looked at their discoveries rather from the hygienic than the physiological point of view; that, while Priestley announced his brilliant discovery by the statement that plants purify the air vitiated by combustion or by the respiration of animals, it is curious enough that, a century afterwards, it should come to be demonstrated before the Academy of Sciences, that probably the leaves of all plants, and certainly those of aquatic plants, while emitting oxygen gas, which ameliorates the atmosphere, also emit one of the most deleterious of known gases—carbonic oxide! He closes with the pregnant and natural query, whether the unhealthiness of marshy districts is not attributable, at least in part, to the disengagement of this pernicious gas by plants?

[We add, that what strikes us with most surprise is to learn that, if these results are true, the vegetable machinery would seem to work at a loss, and with a real, though it be a small, waste of material. When any carbonic acid taken into the leaves passes off unchanged, so much work is not done, but there is no waste or loss in the process of manufacture. But, looking at the food of plants and their products—comparing the raw material with the manufactured article—it seems apparent that any carbonic acid which is reduced to carbonic oxide, and given off as such, is so much loss or waste. We may avoid this unwelcome conclusion by the supposition that the carbonic oxide and carburet of hydrogen are products of the decomposition of some of the vegetable matter coëtaneous with vegetable assimilation, but no part of that process itself. This is the more probable, since it cannot reasonably be supposed that carbonic acid supplied to the foliage is resolved into oxygen and carbonic oxide, and both set free, which seems to be the alternative.—Asa Gray.]—*Silliman's Journal* for January 1863.

On a new Species of Ophiura (O. Normani) *found on the Coast of Northumberland and Durham.* By George Hodge.

During the summer of 1861, whilst dredging at Seaham, upon a sandy bottom, in water varying from 6 to 25 fathoms, a number of small Sand-stars were brought up, associated with *Ophiura texturata* and *Ophiura albida*. Their actions were so singular as to claim a more than ordinary examination, when it was noticed that, although resembling in some respects young forms of *O. texturata* and *O. albida*, they presented features that at once distinguished them from those species, the most striking of which were the longer and more attenuated character of the rays, as compared with the size of the disk, their excessively lively movements, and the wonderful pliability

of the rays. These several circumstances caused them to be regarded as distinct from the two well-known species above named: a careful examination under more favourable circumstances confirmed this opinion.

The surface of the disk is beautifully rosulated, a large plate being in the centre, around which, at a little distance, are arranged five other plates; beyond these, other five plates, and so on, the interspaces being filled in with circlets of little scales, producing an appearance not unlike that seen in *Ophiocoma bellis*.

At the base of the rays, close to the disk (upon the upper surface), is a crescent of short spines, the concave side of the crescent being outwards.

These are features entirely different from what we find in either *Ophiura texturata* or *O. albida*; in both instances the upper surfaces of the disks present no trace of the beautiful and *distinct* rosulated character here seen, neither do we find the crescentic arrangement of spines upon the basal portion of the rays.

The characters of the species under consideration may be thus defined:—

Disk either pentangular or round, the former pertaining to well-grown individuals, the latter to young; upper surface of disk rosulated; under surface corresponding with the other members of the genus. Two clasping scales at the origin of each ray, each bearing above ten short spines. A crescent of eight or ten short blunt spines on upper surface of rays, close to the disk. Lateral ray-plates bearing five moderately long spines. Upper ray-scales nearly square, slightly tapering towards the disk. Rays about four times as long as the diameter of disk, which, in well-grown individuals, measures about a quarter of an inch. Colour reddish-yellow, occasionally of a pale sandy tint.

These features being so constant and distinct, there can be no doubt of the species under consideration being new to our fauna; and as such, it affords me much pleasure to name it after my friend the Rev. A. M. Norman, who is, in fact, the original discoverer, having taken a single specimen some years ago in the Frith of Clyde; and at Shetland, during 1861, he also took three or four specimens. In both instances, however, they only received a glance, and were assumed to be the young of *O. texturata*, for which they may easily be mistaken unless subjected to microscopical examination.

This species would appear to be generally distributed, having been found at three widely different parts of our coasts. It is common here, between sixty and seventy specimens having been dredged in a few hours; owing, however, to their excessive fragility, few were obtained perfect.—*Trans. Tynes. Nat. Field Club*, 1863, vol. v. p. 296.